IN THE CLAIMS:

Please amend the claims as follows. The claims are in the format as required by 35 C.F.R. § 1.121.

1. (Original) A system for transporting data from a plurality of ingress lines to a plurality of egress lines comprising:

a data switching matrix having a plurality of ingress ports and a plurality of egress ports, wherein for each of the ingress ports, the data switching matrix is configured to transport data from each the ingress port to one of the plurality of egress ports

a plurality of ingress edge units, each of which is coupled to one of the plurality of ingress ports of the data switching matrix, wherein each of the plurality of ingress edge units is configured to receive a data from a corresponding one or more of a plurality of ingress lines

a plurality of egress edge units, each of which is coupled to one of the plurality of egress ports of the data switching matrix, wherein each of the plurality of egress edge units is configured to transmit data received from the data switching matrix to one or more of a plurality of egress lines

wherein each of the plurality of ingress edge units is configured to examine data received via the corresponding ingress lines and to identify portions of the data corresponding to each of the egress edge units, wherein portions of the data corresponding to each of the egress edge units is stored in a corresponding buffer and wherein data in each buffer is transmitted to the corresponding egress edge unit via the data switching matrix in a predetermined time slot

2. (Original) The system of claim 1 wherein the ingress edge unit comprises: one or more ingress ports, each of which is configured to be coupled to an ingress data line; a switch coupled to the one or more ingress ports; and a plurality of buffers coupled to the switch; wherein the switch is configured to store data received via the one or more ingress ports in the plurality of buffers, wherein the data stored in each of the plurality of buffers is destined for a corresponding one of a plurality of destinations; and wherein the ingress edge unit is configured to transmit data from each of the plurality of buffers in a corresponding predetermined time slot and wherein the ingress edge unit is configured to schedule data from each of the plurality of

buffers to be delivered to the corresponding one of the plurality of destinations, independent of the predetermined time slot.

3. (Original) The system of claim 2 wherein the ingress edge unit further comprises a multiplexer coupled to the plurality of buffers and configured to multiplex data contained in the plurality of buffers into a single data stream.

4. (Original) The system of claim 3 wherein the multiplexer is configured to multiplex clock data into the single data stream.

5. (Original) The system of claim 4 wherein the clock data is embodied in an optical signal comprising a wavelength which is distinct from a plurality of wavelengths used for optical data signals.

6. (Original) The system of claim 2 wherein the ingress edge unit further comprises a plurality of network interface cards coupled to the ingress lines, wherein each network interface card is configured to receive a data signal from the corresponding ingress line in a corresponding format.

7. (Original) The system of claim 1 wherein the ingress edge unit is configured to receive the data as one or more optical data signals.

8. (Original) The system of claim 7 wherein the one or more optical data signals comprise light having multiple wavelengths.

9. (Original) The system of claim 1 wherein the ingress edge unit comprises a line component configured to provide line functions and a service component configured to provide service functions.

10. (Original) The system of claim 9 wherein the line component is configured to provide SONET line functions and wherein the service component is configured to provide IP service functions.

11. (Original) An ingress edge unit configured to be coupled to a data switching matrix, wherein the ingress edge unit comprises:

one or more ingress ports, each of which is configured to be coupled to an ingress data line;

a switch coupled to the one or more ingress ports; and

a plurality of buffers coupled to the switch;

wherein the switch is configured to store data received via the one or more ingress ports in the plurality of buffers, wherein the data stored in each of the plurality of buffers is destined for a corresponding one of a plurality of destinations; and

wherein the ingress edge unit is configured to transmit data from each of the plurality of buffers in a corresponding predetermined time slot and wherein the ingress edge unit is configured to schedule data from each of the plurality of buffers to be delivered to the corresponding one of the plurality of destinations, independent of the predetermined time slot.

12. (Original) The ingress edge unit of claim 11 wherein the ingress edge unit is configured to receive the data as one or more optical data signals.

13. (Original) The ingress edge unit of claim 12 wherein the one or more optical data signals comprise light having multiple wavelengths.

14. (Original) The ingress edge unit of claim 11 wherein the ingress edge unit comprises a line component configured to provide line functions and a service component configured to provide service functions.

15. (Original) The ingress edge unit of claim 14 wherein the line component is configured to provide SONET line functions and wherein the service component is configured to provide IP service functions.

16. (Original) The ingress edge unit of claim 11 further comprising a multiplexer coupled to the plurality of buffers and configured to multiplex data contained in the plurality of buffers into a single data stream.

17. (Original) The ingress edge unit of claim 16 wherein the multiplexer is configured to multiplex clock data into the single data stream.

18. (Original) The ingress edge unit of claim 17 wherein the clock data is embodied in an optical signal comprising a wavelength which is distinct from a plurality of wavelengths used for optical data signals.

19. (Original) The ingress edge unit of claim 11 wherein the ingress edge unit further comprises a plurality of network interface cards coupled to the ingress lines, wherein each network interface card is configured to receive a data signal from the corresponding ingress line in a corresponding format.

20. (Original) A method comprising:
examining pieces of data in a received data stream;
identifying a destination for each piece of data;
storing the pieces of data in a plurality of buffer units, wherein for each buffer unit, all of the pieces of data stored therein have a common destination; and
transmitting data from each buffer unit in a corresponding periodic timeslot.

21. (Currently Amended) A method for transporting data comprising:
parsing a received data stream into a plurality of data cells;
identifying a destination corresponding to each of the plurality of data cells;
segregating the plurality of data cells into distinct sets of data cells, wherein the data cells in each set of data cells has a common destination; and
sequentially transmitting the sets of data cells to their respective ~~corresponding~~ destinations, wherein each set of data is transmitted to each destination in a timeslot corresponding to that destination.

22. (Original) The method of claim 21 wherein the data stream comprises a plurality of STS1 frames and wherein parsing the received data stream comprises parsing the STS1 frames into data cells.

23. (Original) The method of claim 22 wherein each of the data cells comprises 12 overhead bytes and 84 data bytes.

24. (Original) The method of claim 22 wherein identifying the destination corresponding to each of the plurality of data cells comprises identifying destinations corresponding to the STS1 frames from which the data cells were parsed.

25. (Original) The method of claim 21 wherein segregating the plurality of data cells into distinct sets of data cells comprises storing data cells having a common destination in a common buffer unit.

26. (Original) The method of claim 25 wherein sequentially transmitting the sets of data cells to the corresponding destinations comprises, for each of a plurality of time intervals, sequentially transmitting data cells stored in each of the buffer units to the corresponding destinations.

27. (Original) The method of claim 26 wherein each of the plurality of time intervals comprises a plurality of timeslots and wherein each of the buffer units corresponds to one of the plurality of timeslots.

28. (Original) The method of claim 27 wherein sequentially transmitting the sets of data cells to the corresponding destinations comprises transmitting data cells in more than one buffer unit to a single destination in a single time interval.

29. (Original) The method of claim 25 wherein segregating the plurality of data cells into distinct sets of data cells further comprises routing one or more of the plurality of data cells to an IP service module, determining in the IP service module which of the buffer units correspond

to the one or more of the plurality of data cells, and storing the one or more of the plurality of data cells in the corresponding buffer units.

30. (Original) The method of claim 21 further comprising transmitting clock information with the sets of data cells.

31. (Original) The method of claim 21 wherein transmitting the sets of data cells further comprises transmitting control data corresponding to the data cells in the same time slot as the data cells.